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State of Washington

Small Business Economic Impact Statement

Chapter 173-183 WAC

Oil Spill Natural Resource Damage Assessment

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For more information contact:

SPPR Program
P.O. Box 47600
Lacey, WA 98504-7600

Phone: 360-407-7455

Washington State Department of Ecology - www.ecy.wa.gov

- Headquarters, Lacey 360-407-6000
- Northwest Regional Office, Bellevue 425-649-7000
- Southwest Regional Office, Lacey 360-407-6300
- Central Regional Office, Yakima 509-575-2490
- Eastern Regional Office, Spokane 509-329-3400

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Prepared by
Allen Chen
for the

SPPR Program
Washington State Department of Ecology
Lacey, Washington

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Executive Summary

In this rulemaking, the Department of Ecology (Ecology) proposes to amend Chapter 173-183 WAC – Oil Spill Natural Resource Damage Assessment (NRDA). This rule quantifies injuries from oil spills impacting Washington's publicly-owned natural resources, and scales them to restoration efforts of equal value. This value, expressed as a dollar amount, is called "damages". To determine damages, Washington uses a compensation schedule based on natural resource vulnerability, oil type, and volume of oil spilled.

In 2011 the Washington Legislature passed house bill (HB) 1186 and the bill was codified in state law (Chapter 90.48 RCW). The legislation requires Ecology to amend its current compensation schedule. Under the new law, the amount of compensation assessed for spills is between:

- $1 and $100 per gallon of oil spilled when the spill is less than 1,000 gallons.
- $3 and $300 per gallon of oil spilled when the spill is equal to or more than 1,000 gallons.

Ecology's proposed rule language must achieve two things:

- Make the monetary damage liability consistent with changes in HB 1186.
- Address how recovery credits are provided for "persistent" oil.

The probable total quantifiable compliance costs likely resulting from the proposed rule amendments, discounted at an annual rate of 1.58 percent,[1] are shown in Table 1.

Table 1: Compliance Costs

Costs (NRDA)	Low	High
None	$0.00	$0.00
Costs (RDA)		
Increased damages paid by liable parties	$62,638.00	$322,503.15
Costs (both baselines)		
Required testing (oil in water, oil in debris)	$51,371.01	$51,371.01
Required testing (specific gravity)	$569.30	$569.30
NRDA total compliance costs	$51,940.31	$51,940.31
RDA total compliance costs	$114,578.31	$374,443.46

[1] Ecology uses a discount rate based on interest that could be earned risk-free on today's dollars over the relevant time period. Ecology uses the ten-year average rate of return offered on the US Treasury's T-Bills (inflation-indexed short-term bonds; US Treasury Department, 2012) as the discount rate, averaging 1.58 percent over the last ten years.

Ecology calculates costs relative to two baselines, the existing NRDA rule and the state Resource Damage Assessment (RDA) committee guidelines. The RDA guidelines are the most practical comparison because they contain the recovery credit process used in Washington State since 1996. These guidelines are not the legal baseline however because they are not the existing rule. The existing NRDA rule compensation schedule has not been in practical use. Therefore, we compare the proposed rule to both baselines, in order to provide the most reliable information to the public.

Ecology calculates cost-to-employment ratios examining the relative impacts of the proposed rule on small versus large businesses. Ecology also considers the impacts of the proposed rule on local governments and other small public entities, to reflect the requirements in the Governor's Executive Order 10-06.[2] Other measures of business ability to cope with compliance costs (sales, hours of labor) are not sufficiently available for the representative set of affected businesses.

Small businesses are defined as businesses with fewer than 50 employees, compared to the largest 10 percent of all businesses, as required under the Regulatory Fairness Act (RCW 19.85.070). Ecology finds, as expected with constant costs per spill, that the smallest businesses experience the greatest per-employee costs on average. It costs $1,728.68 per employee under the NRDA baseline and $3,813.39 – $12,462.22 per employee under the RDA baseline. Large businesses pay an average of $2.34 per employee under the NRDA baseline and $5.16 – $16.86 per employee under the RDA baseline.

Ecology includes rule components that help reduce costs for all businesses that take advantage of them within their other business decisions. We assume larger businesses will have larger total costs, and these cost savings will comprise a smaller relative percentage of those total costs. Therefore these components will likely reduce small business costs by a larger percentage than for large business costs.

Using Washington State Office of Financial Management's Input-Output model of the state economy, Ecology calculates the proposed rule is most likely to result in approximately 0.5249 jobs lost over 20 years under the NRDA baseline. Ecology also expects approximately 1.1579 – 3.7842 jobs lost over 20 years under the RDA baseline.

[2] Govenor's Executive Order 10-06

Section 1: Background

Based on research and analysis required by the Regulatory Fairness Act – RCW 19.85.070 – Ecology determines the proposed rule amendments to Chapter 173-183 WAC are likely to have a disproportionate impact on small business. Therefore, Ecology includes cost-minimizing features in the rule where it is legal and feasible to do so.

This document presents:

- Background for the analysis of impacts on small business relative to other businesses.
- Results of the analysis.
- Cost-mitigating action taken by Ecology.

The intention is to read this with the associated Cost-Benefit Analysis (Ecology publication #12-08-008). The Cost-Benefit Analysis contains more in-depth discussion of the methodology.

A small business is defined as having 50 or fewer employees. Impacts are estimated by comparing the proposed rule amendments to the the way natural resource damage is currently assessed.

The existing regulatory environment is called the "baseline" in this document. It only includes existing regulation through laws and rules at the federal, state, and local levels.

History

A spiller is liable for injuries to Washington's publicly-owned natural resources (e.g., fish, birds, beaches, parks, water quality, and recreational sites). They are responsible for the cost of restoring public resources to pre-spill levels. They are also responsible for compensating resources losses while the restoration takes place. The state quantifies these injuries through the NRDA process and scales them to restoration efforts of equal value. The value, expressed as a dollar amount, is called "damages". To determine damages, Washington uses a compensation schedule based on natural resource vulnerability, oil type, and volume of oil spilled.

Spillers who quickly remove spilled oil from the water are eligible to receive credit for the amount of oil they clean up. This "recovery credit" recognizes the ecological benefits of early oil recovery and it provides an incentive for spillers to take immediate action when they have a spill.

In 2011the Washington State Legislature passed HB 1186 and the bill was codified in state law (Chapter 90.48 RCW). The legislation requires Ecology to amend its current compensation schedule. Under the new law, the amount of compensation assessed for spills is between:

- $1 and $100 per gallon of oil spilled when the spill is less than 1,000 gallons.
- $3 and $300 per gallon of oil spilled when the spill is equal to or more than 1,000 gallons.

Ecology's proposed rule language must achieve two things:

- Make the monetary damage liability consistent with changes in HB 1186.
- Address how recovery credits are provided for "persistent" oil.

Regulatory baseline

The baseline is the regulatory context in the absence of the amendments being adopted. In most cases, the regulatory baseline is the existing rule. If there is no existing rule, the federal or local rule is the baseline. If there is no existing regulation at any level of government, the baseline is the statute authorizing the rule.

The baseline for the proposed rule amendments to the NRDA rule is complex. There are multiple factors involved. These factors are:

- The existing NRDA rule (Chapter 173-183 WAC).
- The statute authorizing the NRDA rule (Chapter 90.48 RCW), as amended by HB 1186 in 2011. There exist specific changes to the NRDA rule authorized by statute, which are not analyzed in the cost-benefit per RCW 34.05.328(5)(b)(v).
- The state RDA committee guidelines for reducing compensation amounts due to the early recovery action of the spiller (recovery credit). These guidelines have been used in Washington State since 1996, and are different from the existing NRDA rule.

Below, Ecology shows which changes are explicitly determined in statute. The changes Ecology does not have discretion over are not analyzed. For the changes Ecology does have discretion over, we compare to two baselines, the existing NRDA rule and the state RDA guidelines. The RDA guidelines are the most practical comparison containing the compensation schedule most closely followed in Washington State since 1996.[3] They are also not the legal baseline however, as the RDA guidelines are not the existing rule. The existing NRDA rule compensation schedule has not been in practical use. Ecology compares the proposed rule to both baselines in order to provide the most reliable information to the public, but the legal comparison and determining factor is the existing NRDA rule. The comparison to the RDA guideline is meant to be informative.

Changes under the proposed rule

Ecology analyzes the impacts of the following changes proposed to the NRDA rule.

- Changes to the compensation schedule. Ecology excludes the change to the multiplier 'x' and the change allowing 48 hours for recovery of persistent oils because both are mandated in statute.
- Changes that require testing of recovered oil. To receive credit the liable party is now required to chemically analyze the substance. They must submit the test results to Ecology in order to determine the ratio of oil to water or oil to debris for credit..
- Changes requiring testing of specific gravity. To receive the extra 24 hours (so they have 48 hours total to recover spilled persistent oil), the liable party must test the specific gravity of the oil to show it is in fact persistent.

[3] The RDA guidelines are, as their name suggests, guidance, and in recent years has incorporated aspects of the proposed rule (such as when there were data limitations that prevented calculation of the compensation schedule). As a result, the changes from either baseline estimated in this analysis are likely overestimates because in practice some changes (such as shoreline contact) have already been in use.

For more information about these changes, see the associated Cost-Benefit Analysis for the proposed rule amendments (Ecology publication #12-08-008).

Section 2: Analysis of Compliance Costs for Washington Businesses

Ecology estimates the expected costs associated with the proposed amendments to the NRDA rule as described in Section 1: Background. The baseline is the regulatory circumstance in the absence of the proposed rule amendments adoption. The costs analyzed are associated with specific individual proposed amendments listed in Section 1: Background:

- Compensation schedule.
- Oil in water/debris testing.
- Specific gravity testing.

The RDA guidelines are the most practical comparison containing the compensation schedule most closely followed in Washington State since 1996. They are also not the legal baseline, as the RDA guidelines are not the existing rule. The existing NRDA rule compensation schedule has not been in practical use. Ecology compares the proposed rule to both baselines in order to provide the most reliable information to the public, but the legal comparison and determining factor is the existing NRDA rule.

Ecology estimates present value compliance costs over 20 years in comparison to both the NRDA and RDA baselines. The total compliance costs over 20 years, discounted at an annual rate of 1.58 percent, appear in Table 2.

Table 2: Compliance Costs

Costs (NRDA)	Low	High
None	$0.00	$0.00
Costs (RDA)		
Increased damages paid by liable parties	$62,638.00	$322,503.15
Costs (both baselines)		
Required testing (oil in water, oil in debris)	$51,371.01	$51,371.01
Required testing (specific gravity)	$569.30	$569.30
NRDA total compliance costs	$51,940.31	$51,940.31
RDA total compliance costs	$114,578.31	$374,443.46

Section 3: Quantification of Costs and Ratios

Ecology estimates the per-spill costs from compliance with the proposed rule amendments. This means cost estimates and ranges are for the average spill. A constant cost range per spill leads to inherent estimation of disproportionate costs across differently-sized businesses. In this section, Ecology summarizes compliance cost calculations (the full cost and benefit analyses are in the associated Cost-Benefit Analysis, Ecology publication #12-08-008).

Ecology also discusses general qualities of businesses and compliance costs and the distribution of compliance costs across different business sizes.

Compensation schedule compliance costs

NRDA Baseline
From the NRDA baseline, there is no discretionary compliance cost associated with the changes in compensation schedule. All discretionary changes result in fewer damages paid by liable parties.

RDA Baseline
From the RDA baseline, when there is no containment, shoreline contact, and the spill extends past 1,000 feet from the origin of the spill (4.6 percent of observations), a liable party pays greater damages under the proposed rule. Ecology estimates the average per-spill cost from its overall cost calculations as $98.39 – $506.60 in current dollar values assuming 31.83 spills per year based on historical data. The costs associated with spills occurring in the future are discounted at an annual rate of 1.58 percent,

Oil in water/debris testing costs

Oil in water/debris testing costs are a change from both baselines. Ecology estimates the average per-spill cost of testing oil in water as $60.48. The average per-spill cost of testing oil in debris is $20.21. These estimates are based on historical data of recovery credit based on oil in water (22 percent of all spills) or oil in debris (6 percent of all spills). The total expected testing cost, per spill, for oil in water and oil in debris therefore equals $80.70 in current dollar values. The costs associated with spills occurring in the future are discounted at an annual rate of 1.58 percent.

Specific gravity testing costs

Specific gravity testing costs are a change from both baselines. Ecology estimates the average per-spill cost of testing specific gravity as $0.89 in current dollar values. Ecology uses historical data of the ratio of liable parties spilling persistent oil (4.2 percent). The costs associated with spills occurring in the future are discounted at an annual rate of 1.58 percent.

Cost per employee

Affected industries are comprised of any business with a risk of spilling oil to state surface waters. The proposed amendments may impact these businesses. Ecology identifies 19 industries

affected in the past using data from 2004-2011(see Table 4). Any business that spills oil to state surface waters is affected; these are the only industries we are able to list with non-zero likelihood given our data. We believe the given codes illustrate the industries most likely affected.

Ecology identifies the distribution of businesses across various employment-size categories. Each observation is associated with its respective business size. A single industry may have businesses comprised of different employment sizes. Businesses were identified across the full range of categories from 1-4 employees to over 10,000 employees.[4]

The majority of businesses affected in our data are Navigational Services to Shipping, which include tugboat services and cargo salvaging services.[5] Other industries include Fish and Seafood Merchant Wholesalers, and the Seafood Canning industry (in order of likelihood).

In accordance with Small Business Economic Impact Statement (SBEIS) requirements in the Regulatory Fairness Act, Ecology identifies the largest ten percent of businesses having to comply with the proposed rule amendments (see Table 3). The approximate largest 10 percent of businesses employ between 250 and over 10,000 people each.[6]

Table 3: Employment Sizes

Employment	Freq.	Percent (%)
1 to 4	5	13.52
5 to 9	1	2.7
10 to 19	2	5.41
20 to 49	8	21.62
50 to 99	5	13.51
100 to 249	9	24.32
250 to 499	1	2.7
> 10,000	3	8.1
no data	3	8.11
Total	37	100

Ecology is required to compare the costs per employee for small businesses (those employing fewer than 50 people) with the largest 10 percent of all businesses complying. In comparing the per-employee costs of compliance with the proposed rule amendments Ecology finds that the largest businesses experience the lowest per-employee costs (using a weighted average of their

[4] Employment size categories available from WA Employment Security Department: 1-4, 5-9, 10-19, 20-49, 50-99, 100-249, 250-499, 500-999, 1,000-4,999, 5,000-9,999, and 10,000+ employees.

[5] Please see Appendix A for a table of industries impacted by frequency, comprised from our 2004-2011 data sets. These are listed by North American Industry Classification System (NAICS) codes. "Navigational Services to Shipping" and other capitalized industries correspond to a specific NAICS code.

[6] The largest 10 percent actually comprises 10.8 percent of our total observations. Because 10 percent of 37 observations will give us 3.7 observations, we have rounded up to 4.

respective employment sizes equal to 22,211 employees)[7]. Their costs are $2.34 per employee under the NRDA baseline and $5.16 – $16.86 per employee under the RDA baseline.

The weighted average of employment sizes for businesses with less than 50 employees is equal to approximately 30 employees. The smallest businesses experience greater per-employee costs (relative to the top 10 percent of businesses). Their costs are $1,728.68 per employee under the NRDA baseline and $3,813.39 – $12,462.22 per employee under the RDA baseline.

As a result, Ecology believes the proposed rule imposes disproportionate costs on small businesses. We must then include in the proposed rule elements mitigating costs to small businesses (discussed in Section 4: Actions Taken to Reduce the Impact of the Rule on Small Business).

The above analysis assumes there is no correlation between business size and the likelihood of an oil spill. For example, if large businesses are more likely to spill oil (if they deal in larger quantities of oil or more frequently use oil), then the disproportionate cost impact between small and large businesses is smaller.

Section 4: Actions Taken to Reduce the Impact of the Rule on Small Business

Ecology has limited scope in this proposed rulemaking to reduce the impacts specifically to small business. In choosing the least burdensome means of facilitating compliance and protecting human health and the environment, Ecology provides options to help small businesses reduce their compliance costs by greater percentages. We could not exempt small businesses from the remaining requirements to reduce costs, while fulfilling the goals and objectives of the law.

The Current Oil Recovery Credit Form (ECY 050-49)[8] has been used in guidance since 1996. Ecology never required this form. The information it generated was given to us in order for a potentially liable party to get recovery credit. Since the form was not required, several clean-up contractors developed their own spreadsheets for documenting the required volumes. Some liable parties supplied incorrect information. This resulted in time spent resubmitting information. To avoid these types of errors, the new form is as explicit as possible. Areas requiring laboratory analysis for proper concentration or volume determinations are clearly marked. This should provide marginal cost savings. Liable parties may save time not resubmitting forms and increase their administrative efficiency.

Under the proposed rule, liable parties may either squeeze their sorbent materials to determine the percentage of oil, or they may default to a percentage of 75 percent oil. Under either baseline, liable parties may either use the squeeze method to determine the percentage of oil, or they may

[7] The employment sizes for the 3 observations greater than 10,000 employees are 17,468, 26,000, and 45,000, respectively. For each range we assume a uniform distribution – each employee size in that range is equally likely for an observation found in that range.
[8] Current Oil Recovery Credit Form

haggle with Ecology. There is conceivably a time savings from adopting a default. Ecology believes agents will act in their best interests, and squeeze if they believe their sorbent materials are comprised of greater than 75 percent oil. If businesses believe their sorbent materials are comprised of less than 75 percent oil, they may choose the default and receive more credit.

From the NRDA baseline, there is a savings to liable parties from smaller damages. These savings were not mandated in statute. We assume larger businesses will have larger total costs, and these cost savings will comprise a smaller relative percentage of those total costs. Therefore these components will likely reduce small business costs by a larger percentage than for large business costs.

Section 5: The Involvement of Small Business in the Development of the Proposed Rule Amendments

During the CR-102 (informal rulemaking phase) starting in January 2012, Ecology convened a special Rule Advisory Committee that provided informal comments on the draft regulation and advised Ecology about how environmental, economic and other issues might be addressed. The committee met in May 2012 to specifically address this rule update. Committee members included invited representatives and observers from:

- Oil handling facilities and oil shipping companies.
- Umbrella oil spill contingency plan holders.
- Spill response contractors.
- Tug and towing companies.
- Commercial fishing vessels.
- Cargo and other shipping companies.
- Commercial shellfish growers.
- Commercial fisheries.
- Washington ports.
- Tribal governments.
- Counties and cities.
- Environmental organizations.
- Recreational interests.
- State and federal agencies.

All the committee meetings were open to the public and available through webinar.

Section 6: North American Industry Classification System (NAICS) Codes of Impacted Industries

This section lists NAICS codes for industries Ecology expects to be impacted by the proposed rule amendments in Table 4. We derive these codes from our data set of 66 observations from 2004-2011. These observations are spills not missing data in our paper records. Out of a total of 145 observations, 54 percent of the observations are missing data. Out of these 66 observations, 23 are individuals, and for 10 observations we cannot find data on the given affected business.

Table 4: NAICS Codes of Businesses Possibly Needing to Comply

114111	236115	238320	238910	311711	324110
424460	445230	447190	452111	483211	484220
488330	488510	522110	561990	562920	611110
999999					

We find that the majority of businesses affected in our data are Navigational Services to Shipping, which include tugboat services and cargo salvaging services.[9] Other industries include Fish and Seafood Merchant Wholesalers, the Seafood Canning industry, as well as the transportation and construction industries.

This is likely not a comprehensive list – rather, it illustrates the types of businesses we came across in the data from 2004-2011. Any business with the risk of spilling oil to state surface waters may be impacted by the proposed amendments.[10] These are the only industries we are able to list with non-zero likelihood. We believe the given codes illustrate which industries are most likely to be affected.

Section 7: Impacts on Jobs

Ecology uses the Washington State Office of Financial Management's Washington Input-Output Model.[11] The model accounts for inter-industry impacts and spending multipliers of earned income and changes in output. To estimate these impacts, Ecology assumes the following distribution of affected industries: 65 percent to Water Transportation, and 35 percent to Fishing. Ecology makes these assumptions based on the data found in Appendix A, ignoring affected industries only appearing once on the list.[12] While more industries than the two above will likely be affected by the rule, we believe these two industries are likely the most impacted (they

[9] Please see Appendix A for a table of industries impacted by frequency, comprised from our 2004-2011 data sets.

[10] Unlikely industries may be commercial banks, or department stores – yet they both appear once in our data.

[11] Please see the Washington State Office of Financial Management's site for more information on the Input-Output model: http://www.ofm.wa.gov/economy/io/2002/default.asp.

[12] Assuming Inland Water Freight Transportation and Navigational Services to Shipping qualify as Water Transportation, while Seafood Canning and Fish and Seafood Merchant Wholesalers qualify as Fishing.

comprise approximately 60 percent of the observations we have data on, that are not individuals). Ecology believes this provides an accurate illustration of likely jobs impacts.

Given the above assumptions, Ecology expects approximately 0.5249 jobs lost over 20 years under the NRDA baseline. Ecology also expects approximately 1.1579 – 3.7842 jobs lost over 20 years under the RDA baseline.

These are jobs directly lost within impacted industries, plus jobs lost in supporting industries (wholesale goods, energy, support services, transportation) and industries where labor income would be spent (retail, services, energy, housing, transportation).

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Appendix A

NAICS code	Freq.	Percent (%)	Cum. (%)
No data	10	15.15	15.15
Individual	23	34.85	50
114111	1	1.52	51.52
236115	1	1.52	53.03
238320	1	1.52	54.55
238910	1	1.52	56.06
311711	2	3.03	59.09
324110	1	1.52	60.61

424460	5	7.58	68.18
445230	1	1.52	69.7
447190	1	1.52	71.21
483211	2	3.03	74.24
484220	1	1.52	75.76
488330	11	16.67	92.42
488510	1	1.52	93.94
561990	1	1.52	95.45
562920	1	1.52	96.97
611110	1	1.52	98.48
999999	1	1.52	100
Total	66	100	